LAKE: COBBOSSEECONTEE (LT) (VLMP CWD)
TOWN: WINTHROP
COUNTY: KENNEBEC

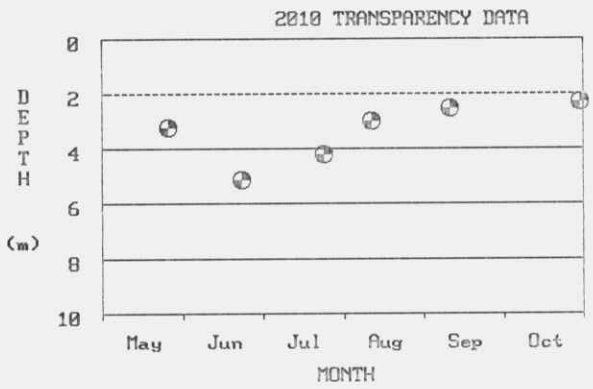
MIDAS: 8065
TRUE BASIN: 1
SAMPLE STATION: 1

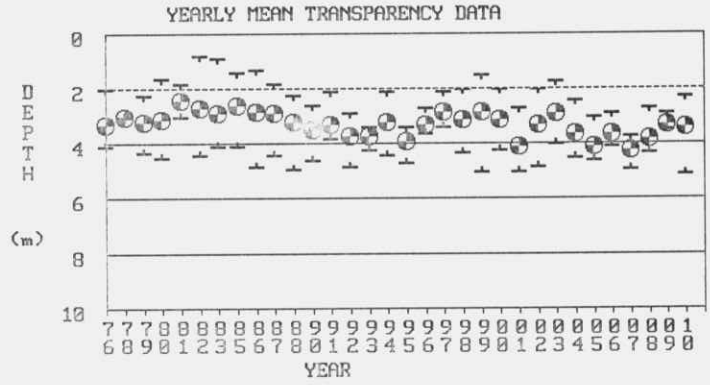
WHOLE LAKE INFORMATION
MAX. DEPTH: 10 m. (33 ft.)
MEAN DEPTH: 5 m. (17 ft.)
DELORME ATLAS #: 12
USGS QUAD: WINTHROP
IFW REGION B: Belgrade Lakes (Augusta)
IFW FISH. MANAGMENT: Warmwater

TRUE BASIN CHARACTERISTICS
SURFACE AREA: 32.0 ha. (79.1 a.)
FLUSHING RATE: 4.62 flushes/yr.
VOLUME: 1102867.0 cu. m. (895 ac.-ft.)
DIRECT DRAINAGE AREA: 6.85 sq. km. (2.64 sq. mi.)

PLEASE NOTE THE FOLLOWING: The SAMPLE STATION # refers to the location sampled. The term TRUE BASIN is used to define areas within a lake that are separated by shallow reefs or shoals and therefore function as separate lakes. There are approximately 50 lakes in the state that have more than 1 True Basin. True Basin Characteristics are now being included in the first section of these reports to enable users of the Phosphorous Loading Methodology to better evaluate the data. If there is no data for a particular True Basin, True Basin Characteristics must be obtained from the DEP. COBBOSSEECONTEE (LT) has 1 True Basin(s).

SECCHI DISK TRANSPARENCY GRAPHS:





Note: 2010 graphs may indicate multiple readings taken on a given day.

SUMMARY OF CHEMICAL AND TROPHIC STATE PARAMETERS:

[* indicates that Secchi disk was visable at bottom of lake (or one reading used in calculation was visable)].

	MEAN COLOR	MEAN pH	MEAN ALK	MEAN COND.	TOTAL PHOS. MEANS (ppb)				SECCHI DISK (m.)				CHLOROPHYLL A(ppb)			TROPHIC STATE INDICES			
	(SPU)		(mg/l)	(uS	EPI	SURF	BOT.	PRO.								EPI PHOS			
YEAR				/cm)	CORE	GRAB	GRAB	GRAB	MIN.	MEAN	MAX.	N	MIN.	MEAN	MAX.	C	G	SEC	CHL
1976	-	-	-	-	51	-	-	-	2.0	3.3	4.1	6	2.6	5.2	7.7	87	-	71	-
1978	-	-	-	-	28	-	-	-	3.0	3.0	3.0	2	-	-	-	-	-	-	-
1979	-	7.07	-	-	22	-	-	33	2.2	3.2	4.3	6	3.1	8.2	17.4	-	75	73	67
1980	-	-	-	-	46	-	-	95	1.6	3.1	4.5	5	5.9	20.0	59.7	-	105	75	92
1981	-	-	-	-	-	-	-	75	1.8	2.4	3.0	5	8.4	14.0	23.9	-	98	89	82
1982	-	-	-	-	51	-	-	45	0.8	2.7	4.4	6	5.4	21.6	45.6	-	84	83	94
1983	35	6.80	19.0	80	28	-	-	-	0.9	2.9	4.1	5	4.0	16.0	48.8	-	-	78	86
1985	-	8.60	-	62	20	-	-	-	1.4	2.6	4.1	5	-	-	-	-	-	85	-
1986	-	7.19	-	-	27	-	-	-	1.3	2.8	4.8	5	-	-	-	-	-	80	-
1987	-	7.20	17.5	-	38	-	-	-	1.8	2.9	4.4	5	-	-	-	-	-	78	-
1988	-	6.80	13.0	-	-	-	-	-	2.2	3.2	4.9	6	-	-	-	-	-	73	-
1990	-	6.95	23.0	-	-	-	-	-	2.6	3.5	4.6	3	-	-	-	-	-	-	-
1991	-	6.96	16.8	-	-	-	-	145	2.1	3.3	3.8	5	-	-	-	-	-	71	-
1992	-	7.08	19.4	-	-	-	-	-	2.9	3.7	4.8	5	-	-	-	-	-	65	-
1993	-	7.01	19.9	-	-	-	-	127	3.4	3.7	4.2	5	1.1	5.0	10.0	-	114	65	53

LAKE: COBBOSSEECONTEE (LT) (VLMP CWD)
TOWN: WINTHROP
COUNTY: KENNEBEC

MIDAS: 8065
*TRUE BASIN: 1
*SAMPLE STATION: 1

SUMMARY OF CHEMICAL AND TROPHIC STATE PARAMETERS:

	MEAN COLOR	MEAN pH	MEAN ALK	MEAN COND.	TOTAL PHOS. MEANS (ppb)				SECCHI DISK (m.)				CHLOROPHYLL A(ppb)			TROPHIC STATE INDICES EPI PHOS			
YEAR	(SPU)		(mg/l)	(uS /cm)	EPI CORE	SURF GRAB	BOT. GRAB	PRO. GRAB	MIN.	MEAN	MAX.	N	MIN.	MEAN	MAX.	C	G	SEC	CHL
1994	25	6.91	19.0	-	-	-	-	130	2.1	3.2	4.4	5	9.5	15.9	28.6	-	115	73	85
1995	-	6.80	18.0	-	-	-	-	91	3.4	3.9	4.7	5	-	-	-	-	104	62	-
1996	-	-	-	-	-	-	-	76	2.7	3.3	3.6	5	1.6	11.6	18.0	-	99	71	76
1997	-	6.80	19.9	-	-	-	-	58	2.1	2.8	3.4	5	7.5	11.0	14.5	-	91	80	75
1998	-	-	-	-	-	-	-	103	2.0	3.1	4.3	6	2.7	22.8	53.6	-	108	75	96
1999	-	-	-	-	-	-	-	96	1.5	2.8	5.0	6	5.3	23.7	58.1	-	106	80	97
2000	-	6.99	16.2	-	-	16	-	99	2.0	3.1	4.2	6	5.1	10.6	15.0	-	107	75	74
2001	30	7.01	16.6	-	-	-	-	58	2.7	4.1	5.0	6	3.9	8.6	16.6	-	91	59	68
2002	-	6.97	16.4	-	25	-	88	63	2.0	3.3	4.8	7	2.5	9.9	15.6	67	93	71	72
2003	24	7.14	20.0	-	140	-	-	85	1.7	2.9	4.0	6	8.9	13.9	27.5	-	102	78	81
2004	15	7.03	16.5	-	-	-	-	93	2.4	3.6	4.5	4	5.2	9.2	14.2	-	-	-	-
2005	-	-	17.3	-	-	-	-	87	3.0	4.1	4.6	5	6.6	8.1	12.1	-	103	59	66
2006	35	6.79	22.0	74	-	-	-	160	2.9	3.6	4.1	4	4.0	7.0	10.0	-	-	-	-
2007	-	7.13	20.1	-	-	-	-	88	3.7	4.2	4.9	4	3.5	6.9	11.0	-	-	-	-
2008	-	6.87	20.0	-	-	-	-	50	2.7	3.8	4.3	6	3.6	9.7	21.0	-	87	63	71
2009	-	-	23.8	-	-	-	-	44	2.9	3.3	3.5	5	6.8	12.0	24.0	-	83	71	77
2010	-	-	21.5	-	-	-	-	46	2.3	3.4	5.1	6	4.0	12.1	23.0	-	84	69	77
SUMMARY:	27	6.98	18.9	72	43	16	88	85	0.8	3.3	5.1	32	1.1	12.3	59.7	77	97	73	78

LATE SUMMER TEMPERATURE / DISSOLVED OXYGEN PROFILES:

	SAMPLE DATE															
DEPTH	08/30/06		08/28/07		08/22/08		09/29/08		08/04/09		09/14/09		08/11/10		09/10/10	
m	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm
0.0	21.4	8.2	23.8	8.8	23.3	9.6	17.7	9.1	24.9	7.6	20.0	8.4	26.0	9.0	21.5	8.5
1.0	20.3	8.3	23.2	8.9	22.3	10.0	17.6	9.1	23.9	7.3	19.9	8.2	25.6	9.1	21.6	8.5
2.0	20.1	8.3	23.0	8.9	22.1	9.9	17.1	8.5	22.6	4.5	19.8	8.2	25.2	8.8	21.5	8.5
3.0	20.0	8.1	22.0	9.5	21.3	8.1	16.9	7.9	20.2	1.8	19.8	8.2	24.4	9.4	21.5	8.5
4.0	19.5	7.3	20.5	8.4	19.0	0.5	16.8	6.2	17.8	1.4	16.8	0.4	21.9	7.2	21.3	8.2
5.0	15.3	2.1	16.5	5.1	14.7	0.3	16.2	5.4	15.5	0.2	14.2	0.3	15.9	3.9	18.7	0.3
6.0	12.7	0.3	11.2	0.4	10.6	0.3	13.4	0.4	12.7	0.2	11.9	0.2	11.6	0.2	13.0	0.2
7.0	11.3	0.3	9.3	0.3	8.5	0.3	9.4	0.3	10.1	0.2	10.1	0.2	9.8	0.2	10.3	0.2
8.0	10.8	0.3	8.5	0.2	7.6	0.3	8.2	0.3	8.9	0.2	9.2	0.2	8.9	0.2	9.4	0.2
9.0	10.6	0.3	8.2	0.2	7.3	0.3	7.8	0.2	8.2	0.2	9.0	0.2	8.7	0.2	8.9	0.2
10.0	-	-	-	-	-	-	-	-	8.0	0.2	8.9	0.2	-	-	-	-
11.0	-	-	-	-	-	-	-	-	7.9	0.2	-	-	-	-	-	-

WATER QUALITY SUMMARY

Little Cobbosseecontee (Cobbossee) Lake, Winthrop
Midas: 8065, Basin: Primary 01

The Cobbossee Watershed District (CWD), the Maine Department of Environmental Protection (Maine DEP) and the Volunteer Lake Monitoring Program (VLMP) have collaborated in the collection of Little Cobbossee Lake data to evaluate water quality, track algal blooms, and determine historical water quality trends. This dataset does not include bacteria, mercury, or nutrients other than total phosphorus.

Water quality monitoring data for Little Cobbossee Lake have been collected since 1976. During this period, 18 years of basic chemical information was collected in addition to 26 years of Secchi Disk Transparency (SDT) measures. In summary, the water quality of Little Cobbossee Lake is considered very poor based on measures of SDT, total phosphorus (TP), and chlorophyll-a (Chla). The potential for nuisance summertime algal blooms on Little Cobbossee Lake is high.

Water Quality Measures: Little Cobbossee Lake is a slightly colored lake (average color 26 SPU) with an average SDT of 3.2 meters (10.5 feet). The range of upper water column TP for Little Cobbossee Lake is 20 - 51 parts per billion (ppb) with an average of 34 ppb. Chla ranges from 1.1- 59.7 ppb with an average of 13.4 ppb. Recent dissolved oxygen (DO) profiles show high DO depletion in deep areas of the lake. The potential for phosphorus to leave the bottom sediments and become available to algae in the water column (internal loading) is high. Oxygen levels below 5 parts per million stress certain coldwater fish and a persistent loss of oxygen may eliminate or reduce habitat for sensitive coldwater species (e.g., lake trout/togue and landlocked Atlantic salmon).

Comments: Little Cobbossee Lake is actively managed and routinely monitored directly by the Cobbossee Watershed District and is on the state listing of Maine lakes in non-attainment of water quality standards due to excessive total phosphorus watershed loads.

Nutrient Management: A Little Cobbossee Lake combined Phosphorus Control Action Plan (PCAP) and Total Maximum Daily (Annual Phosphorus) Load (TMDL) report was prepared by Maine DEP during 2003-05, under contract with CWD - with assistance from the Maine Association of Conservation Districts (MACD) project team. Following lake stakeholder and public reviews, this document was approved by US-EPA (New England) on March 16, 2005. This final report, along with the EPA-New England review summary and letter of approval, can be found on the Maine DEP webpage at: http://www.maine.gov/dep/blwq/docmonitoring/tmdl2.htm.

See ME-DEP Explanation of Lake Water Quality Monitoring Report for measured variable explanations. Additional lake information can be obtained by contacting CWD at 207-377-2234 or ME-DEP at 207-287-3901 or VLMP at 207-783-7733. Additional lake information can be found on the Internet at http://www.lakesofmaine.org/ and/or http://www.maine.gov/dep/blwq/lake.htm.

Filename: 8065cobb, revised: 03/2005, by dbh

LAKE: COBBOSSEECONTEE L (VLMP CWD)
TOWN: WINTHROP
COUNTY: KENNEBEC

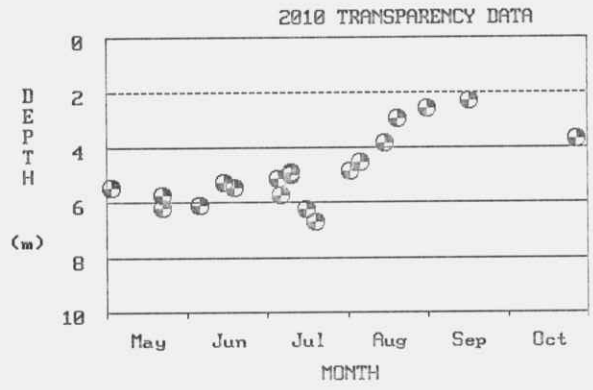
MIDAS: 5236
TRUE BASIN: 1
SAMPLE STATION: 1

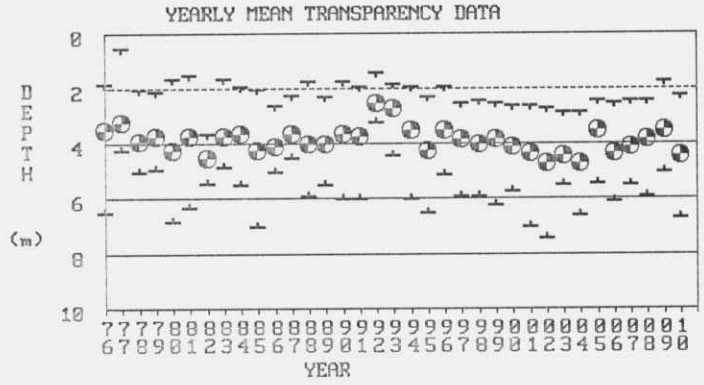
WHOLE LAKE INFORMATION
MAX. DEPTH: 30 m. (100 ft.)
MEAN DEPTH: 11 m. (37 ft.)
DELORME ATLAS #: 12
USGS QUAD: PURGATORY
IFW REGION B: Belgrade Lakes (Augusta)
IFW FISH. MANAGMENT: Warmwater & Coldwater

TRUE BASIN CHARACTERISTICS
SURFACE AREA: 2120.0 ha. (5238.4 a.)
FLUSHING RATE: 1.07 flushes/yr.
VOLUME: 157109008.0 cu. m. (127446 ac.-ft.)
DIRECT DRAINAGE AREA: 83.50 sq. km. (32.24 sq. mi.)

PLEASE NOTE THE FOLLOWING: The SAMPLE STATION # refers to the location sampled. The term TRUE BASIN is used to define areas within a lake that are separated by shallow reefs or shoals and therefore function as separate lakes. There are approximately 50 lakes in the state that have more than 1 True Basin. True Basin Characteristics are now being included in the first section of these reports to enable users of the Phosphorous Loading Methodology to better evaluate the data. If there is no data for a particular True Basin, True Basin Characteristics must be obtained from the DEP. COBBOSSEECONTEE L has 1 True Basin(s).

SECCHI DISK TRANSPARENCY GRAPHS:





Note: 2010 graphs may indicate multiple readings taken on a given day.

SUMMARY OF CHEMICAL AND TROPHIC STATE PARAMETERS:

[* indicates that Secchi disk was visable at bottom of lake (or one reading used in calculation was visable)].

	MEAN COLOR	MEAN pH	MEAN ALK	MEAN COND.	TOTAL PHOS. MEANS (ppb)				SECCHI DISK (m.)				CHLOROPHYLL A(ppb)			TROPHIC STATE INDICES EPI PHOS			
	(SPU)		(mg/l)	(uS	EPI	SURF	BOT.	PRO.											
YEAR				/cm)	CORE	GRAB	GRAB	GRAB	MIN.	MEAN	MAX.	N	MIN.	MEAN	MAX.	C	G	SEC	CHL
1976	-	-	-	-	16	-	-	-	1.8	3.5	6.5	5	2.7	7.5	18.8	55	-	68	64
1977	-	-	-	-	17	22	20	20	0.5	3.2	4.2	7	1.5	10.8	18.9	55	-	73	74
1978	-	-	-	-	-	-	-	-	2.0	3.9	5.0	6	1.5	7.3	14.6	-	-	62	63
1979	-	7.03	-	-	-	-	23	21	2.1	3.7	4.9	7	1.8	8.9	18.8	-	61	65	69
1980	-	-	-	-	17	-	27	22	1.6	4.2	6.8	7	3.7	9.0	21.4	-	64	58	69
1981	-	-	-	-	-	-	22	20	1.5	3.7	6.3	7	2.2	8.0	22.6	-	60	65	66
1982	-	-	-	-	16	-	21	16	3.6	4.5	5.4	6	2.9	5.7	10.1	-	55	54	56
1983	15	7.10	18.0	70	-	-	27	22	1.6	3.7	4.8	7	3.8	8.2	19.7	-	63	65	67
1984	-	7.27	-	51	-	-	26	22	1.9	3.6	5.5	6	4.7	10.0	16.7	-	63	66	72
1985	-	7.16	-	48	-	-	19	17	2.0	4.2	7.0	6	3.4	10.2	20.3	-	56	58	-
1986	-	7.70	-	-	-	-	18	17	2.6	4.1	5.0	6	3.9	6.6	8.6	-	57	59	60
1987	-	7.15	15.0	-	-	-	20	17	2.2	3.6	4.5	6	4.5	5.9	7.6	-	57	66	-
1988	-	-	-	-	19	-	18	15	1.7	4.0	5.9	6	3.6	7.9	13.0	-	-	60	-
1989	-	-	-	-	-	-	-	-	2.3	4.0	5.5	6	4.6	5.3	6.7	-	-	60	-
1990	20	7.07	19.1	54	18	-	25	20	1.7	3.6	6.0	6	-	-	-	58	-	66	-

LAKE: COBBOSSEECONTEE L (VLMP CWD)
TOWN: WINTHROP
COUNTY: KENNEBEC

MIDAS: 5236
*TRUE BASIN: 1
*SAMPLE STATION: 1

SUMMARY OF CHEMICAL AND TROPHIC STATE PARAMETERS:

	MEAN COLOR	MEAN pH	MEAN ALK	MEAN COND.	TOTAL PHOS. MEANS (ppb)				SECCHI DISK (m.)				CHLOROPHYLL A(ppb)			TROPHIC STATE INDICES EPI PHOS			
	(SPU)		(mg/l)	(uS	EPI	SURF	BOT.	PRO.											
YEAR				/cm)	CORE	GRAB	GRAB	GRAB	MIN.	MEAN	MAX.	N	MIN.	MEAN	MAX.	C	G	SEC	CHL
1991	-	7.02	17.1	-	20	-	24	20	1.9	3.7	6.0	5	4.4	12.9	19.6	-	-	65	79
1992	-	7.06	16.8	-	-	-	-	-	1.4	2.5	3.2	6	9.5	21.5	40.1	-	-	87	94
1993	-	6.95	18.3	-	-	-	49	32	1.8	2.7	4.4	6	6.5	14.8	22.3	-	74	83	83
1994	18	6.95	16.8	-	-	-	45	29	1.9	3.5	6.0	6	6.9	14.1	22.5	-	71	68	82
1995	-	6.90	16.0	-	-	-	31	26	2.3	4.2	6.5	6	-	-	-	-	68	58	-
1996	-	-	-	-	-	-	31	22	1.9	3.5	5.1	6	4.4	8.1	12.6	-	63	68	66
1997	-	6.88	18.9	-	19	-	21	16	2.5	3.8	5.9	6	6.9	10.3	16.0	-	55	63	73
1998	-	-	-	-	-	-	21	17	2.4	4.0	5.9	6	4.8	9.4	14.5	-	57	60	70
1999	-	-	-	-	12	-	18	17	2.5	3.8	6.2	6	5.8	11.3	13.7	-	57	63	-
2000	5	6.94	15.5	-	-	14	17	16	2.6	4.1	5.7	6	3.9	8.2	12.7	-	54	59	67
2001	-	7.00	15.8	-	18	-	17	15	2.6	4.3	7.0	6	6.8	12.3	17.1	-	53	56	78
2002	-	6.94	15.3	-	-	-	18	16	2.7	4.7	7.4	6	3.6	9.1	17.2	-	55	52	69
2003	14	7.09	18.5	-	-	-	26	22	2.8	4.4	5.5	6	4.7	7.9	10.8	-	63	55	66
2004	10	7.03	14.7	-	-	-	40	29	2.8	4.7	6.6	6	3.7	7.7	13.3	-	71	52	65
2005	-	6.90	13.0	-	-	-	22	19	2.4	3.5	5.4	6	6.5	9.5	13.7	-	59	68	71
2006	19	6.97	20.2	81	-	-	24	19	2.5	4.3	6.1	6	4.7	7.7	14.0	-	59	56	65
2007	-	7.09	19.3	-	18	-	24	19	2.4	4.1	5.5	6	4.8	6.7	14.0	-	59	59	61
2008	21	6.97	19.7	81	12	-	21	16	2.4	3.8	5.9	6	5.2	9.8	15.0	-	55	63	71
2009	-	-	20.8	-	27	-	19	17	1.7	3.5	5.0	6	6.8	10.3	18.0	-	56	68	73
2010	-	-	20.5	-	18	-	24	20	2.2	4.4	6.7	6	3.4	9.1	19.0	-	60	55	70
SUMMARY:	15	7.03	17.5	64	18	18	25	20	0.5	3.9	7.4	35	1.5	9.4	40.1	56	60	63	70

LATE SUMMER TEMPERATURE / DISSOLVED OXYGEN PROFILES:

	SAMPLE DATE															
DEPTH	08/15/08		08/20/08		09/17/08		08/17/09		09/21/09		08/05/10		08/19/10		09/16/10	
m	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm
0.0	24.5	9.4	21.6	8.2	19.9	8.3	27.1	9.9	19.6	8.1	25.4	9.4	26.2	8.2	19.5	8.2
1.0	22.9	9.8	21.6	8.2	19.7	8.4	26.0	10.2	18.6	7.9	25.4	9.4	25.2	8.3	19.5	8.2
2.0	22.5	9.8	21.6	8.2	19.7	8.2	25.4	10.4	18.4	7.7	25.3	9.4	24.4	8.4	19.4	8.2
3.0	22.3	9.8	21.6	8.1	19.6	8.2	24.1	10.1	18.4	7.5	25.1	9.5	24.2	8.4	19.4	8.2
4.0	21.8	8.9	21.6	8.1	19.6	8.1	23.0	8.1	18.3	7.0	24.9	9.4	24.0	8.3	19.3	8.2
5.0	21.6	8.5	21.6	8.1	19.6	8.2	22.1	6.4	18.3	7.5	24.5	9.2	23.9	8.0	19.3	8.2
6.0	21.2	7.6	21.6	8.0	19.6	8.2	21.2	5.1	18.3	7.5	23.9	8.3	23.8	7.8	19.3	8.2
7.0	21.0	6.7	21.6	8.0	19.6	8.2	19.7	2.8	18.3	7.5	21.5	3.9	23.2	6.5	19.3	8.3
8.0	17.5	1.6	18.2	1.8	19.5	8.0	18.4	1.8	18.2	7.3	19.2	0.8	21.0	0.9	19.3	8.3
9.0	14.9	0.3	15.7	0.5	16.9	1.3	16.9	0.9	18.0	6.5	16.3	0.2	18.5	0.2	19.2	8.3
10.0	13.9	0.3	14.3	0.3	15.6	0.2	16.2	0.7	18.0	5.1	15.1	0.2	16.6	0.1	17.6	0.9
11.0	13.3	0.5	13.3	0.3	14.4	0.2	15.7	0.5	16.5	0.2	14.3	0.2	15.9	0.1	15.5	0.2
12.0	12.8	0.7	12.8	0.5	13.7	0.2	15.1	0.5	15.9	0.2	13.9	0.2	15.2	0.1	14.7	0.2
13.0	12.4	0.9	12.3	0.6	13.2	0.2	14.7	0.5	15.5	0.2	13.6	0.2	14.6	0.1	14.4	0.2
14.0	12.1	0.7	12.1	0.6	12.9	0.2	14.3	0.4	14.9	0.2	13.2	0.3	14.2	0.1	13.9	0.2
15.0	11.7	0.9	11.7	0.6	12.2	0.2	13.5	0.2	14.0	0.2	12.7	0.3	13.6	0.1	13.1	0.2
16.0	11.1	0.8	-	-	11.4	0.2	12.4	0.2	13.0	0.2	12.1	0.2	-	-	12.4	0.2
17.0	10.6	0.8	-	-	10.7	0.2	11.9	0.2	12.2	0.2	11.7	0.2	12.7	0.1	11.9	0.2
18.0	10.1	0.8	10.4	0.5	10.3	0.2	11.5	0.2	11.7	0.2	11.2	0.2	-	-	11.3	0.2
19.0	9.9	0.7	-	-	10.0	0.2	11.1	0.2	11.6	0.2	10.7	0.2	11.1	0.1	11.0	0.2

LAKE: COBBOSSEECONTEE L (VLMP CWD)
TOWN: WINTHROP
COUNTY: KENNEBEC

MIDAS: 5236
*TRUE BASIN: 1
*SAMPLE STATION: 1

LATE SUMMER TEMPERATURE / DISSOLVED OXYGEN PROFILES:

	SAMPLE DATE															
DEPTH	08/15/08		08/20/08		09/17/08		08/17/09		09/21/09		08/05/10		08/19/10		09/16/10	
m	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm
20.0	9.4	0.6	-	-	9.8	0.2	10.8	0.2	11.0	0.2	10.4	0.2	-	-	10.7	0.2
21.0	9.2	0.6	9.3	0.5	9.6	0.2	10.6	0.2	10.7	0.2	10.2	0.2	11.2	0.1	10.4	0.2
22.0	9.1	0.4	-	-	9.4	0.2	10.4	0.2	10.4	0.2	10.0	0.2	-	-	10.2	0.2
23.0	9.0	0.3	-	-	9.3	0.2	10.1	0.1	10.2	0.2	9.5	0.2	10.6	0.1	10.0	0.2
24.0	8.9	0.2	8.7	0.3	9.2	0.2	9.8	0.2	10.0	0.2	9.4	0.2	-	-	9.7	0.2
25.0	8.7	0.2	-	-	9.0	0.2	9.6	0.1	9.9	0.2	9.3	0.2	10.2	0.1	9.6	0.2
26.0	8.6	0.2	-	-	9.0	0.2	9.5	0.2	9.7	0.2	9.2	0.2	-	-	9.4	0.2
27.0	8.5	0.2	8.5	0.3	8.9	0.2	9.5	0.1	9.7	0.2	9.1	0.2	9.8	0.1	9.4	0.2
28.0	8.4	0.2	-	-	8.8	0.2	9.4	0.1	9.6	0.2	9.0	0.2	-	-	9.3	0.2
29.0	-	-	8.4	0.2	8.8	0.2	9.4	0.1	9.6	0.2	9.0	0.2	-	-	9.2	0.2
30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

WATER QUALITY SUMMARY

Cobbosseecontee (Cobbossee) Lake, Winthrop
Midas: 5236, Basin: North (Basin 2)

The Cobbossee Watershed District (CWD), Maine Department of Environmental Protection (Maine DEP) and the Volunteer Lake Monitoring Program (VLMP) have collaborated in the collection of Cobbossee Lake data to evaluate water quality, track algal blooms, and determine historical water quality trends. This dataset does not include bacteria, mercury, or nutrients other than total phosphorus.

Water quality monitoring data for Cobbossee Lake (north basin) have been collected since 1975. During this period, 18 years of basic chemical information was collected in addition to 30 years of Secchi Disk Transparencies (SDT). In summary, the water quality of Cobbossee Lake is considered fair to poor based on historical measures of SDT, total phosphorus (TP), and chlorophyll-a (Chla). The potential for nuisance summertime algal blooms on Cobbossee Lake is moderate to high; however, water quality has improved during the past eight years.

Water Quality Measures (north basin): Cobbossee Lake is a non-colored lake (average color 14 SPU) with an average SDT of 3.9 meters (12.8 feet). The range of upper water column TP for Cobbossee Lake is 14 - 24 parts per billion (ppb) with an average of 17 ppb. Chla ranges from 1.7 - 37.9 ppb with an average of 8.3 ppb. Recent dissolved oxygen (DO) profiles show high DO depletion in deep areas of the lake. The potential for phosphorus to leave the bottom sediments and become available to algae in the water column (internal loading) is high. Oxygen levels below 5 parts per million stress certain coldwater fish and a persistent loss of oxygen may eliminate or reduce habitat for sensitive coldwater species (e.g., lake trout/togue and landlocked Atlantic salmon).

Comments: Cobbossee Lake is actively managed and continually monitored directly through the Cobbossee Watershed District (CWD), and is on the state listing of Maine lakes non-attaining water quality standards. Associated studies include a Maine DEP non-point source pollution grant through the Kennebec County Soil and Water Conservation District for the restoration of Cobbossee Lake through reduction of total phosphorus in the Jock Stream watershed.

Nutrient Management: A Cobbossee Lake Total Maximum Daily (Annual Phosphorus) Load (TMDL) report was originally prepared by the Cobbossee Watershed District under contract with Maine DEP in the mid-1990's (1995 report). This report was revised to meet the US-EPA New England guidance template in 1999 and following lake stakeholder and public reviews, this document was approved by US-EPA (New England) on January 26, 2000. This final (addendum) report, along with the EPA-New England review summary and letter of approval, can be found on the Maine DEP webpage at: http://www.maine.gov/dep/blwq/docmonitoring/tmdl2.htm.

See ME-DEP Explanation of Lake Water Quality Monitoring Report for measured variable explanations. Additional lake information can be obtained by contacting CWD at 207-377-2234 or ME-DEP at 207-287-3901 or VLMP at 207-783-7733. Additional lake information can be found on the Internet at http://www.lakesofmaine.org/ and/or http://www.maine.gov/dep/blwq/lake.htm.

Filename: cob25236, revised: 03/2005, by dbh

LAKE: COBBOSSEECONTEE L (VLMP CWD)
TOWN: WINTHROP
COUNTY: KENNEBEC

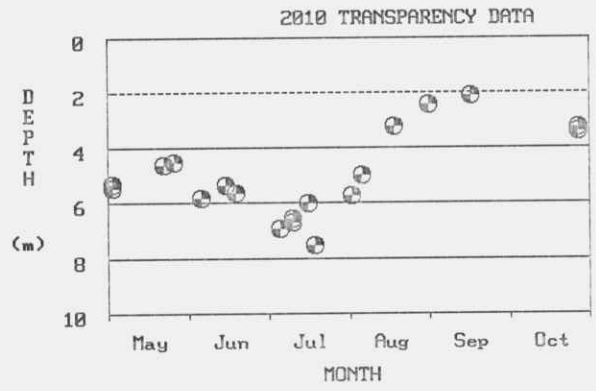
MIDAS: 5236
TRUE BASIN: 1
SAMPLE STATION: 2

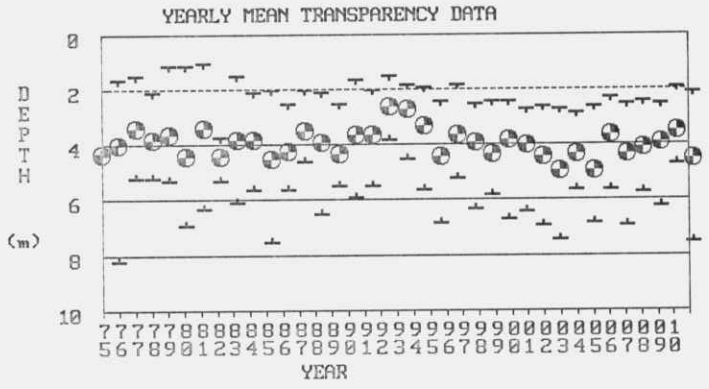
WHOLE LAKE INFORMATION
MAX. DEPTH: 30 m. (100 ft.)
MEAN DEPTH: 11 m. (37 ft.)
DELORME ATLAS #: 12
USGS QUAD: PURGATORY
IFW REGION B: Belgrade Lakes (Augusta)
IFW FISH. MANAGMENT: Warmwater & Coldwater

TRUE BASIN CHARACTERISTICS
SURFACE AREA: 2120.0 ha. (5238.4 a.)
FLUSHING RATE: 1.07 flushes/yr.
VOLUME: 157109008.0 cu. m. (127446 ac.-ft.)
DIRECT DRAINAGE AREA: 83.50 sq. km. (32.24 sq. mi.)

PLEASE NOTE THE FOLLOWING: The SAMPLE STATION # refers to the location sampled. The term TRUE BASIN is used to define areas within a lake that are separated by shallow reefs or shoals and therefore function as separate lakes. There are approximately 50 lakes in the state that have more than 1 True Basin. True Basin Characteristics are now being included in the first section of these reports to enable users of the Phosphorous Loading Methodology to better evaluate the data. If there is no data for a particular True Basin, True Basin Characteristics must be obtained from the DEP. COBBOSSEECONTEE L has 1 True Basin(s).

SECCHI DISK TRANSPARENCY GRAPHS:





Note: 2010 graphs may indicate multiple readings taken on a given day.

SUMMARY OF CHEMICAL AND TROPHIC STATE PARAMETERS:

[* indicates that Secchi disk was visable at bottom of lake (or one reading used in calculation was visable)].

	MEAN COLOR (SPU)	MEAN pH	MEAN ALK (mg/l)	MEAN COND. (uS /cm)	TOTAL PHOS. MEANS (ppb) EPI CORE	SURF GRAB	BOT. GRAB	PRO. GRAB	SECCHI DISK (m.) MIN.	MEAN	MAX.	N	CHLOROPHYLL A(ppb) MIN.	MEAN	MAX.	TROPHIC STATE INDICES EPI PHOS C	G	SEC	CHL
YEAR																			
1975	-	-	-	-	-	18	-	-	4.3	4.3	4.3	1	-	-	-	-	-	-	-
1976	-	-	-	-	17	-	-	-	1.6	4.0	8.2	6	1.7	6.4	14.5	55	-	60	60
1977	-	-	-	-	14	18	19	19	1.5	3.4	5.2	7	1.8	9.2	20.0	50	-	69	-
1978	-	-	-	-	-	-	-	-	2.1	3.8	5.2	6	1.9	8.8	14.4	-	-	63	68
1979	-	7.07	-	-	-	-	38	28	1.1	3.6	5.3	7	2.7	11.7	37.9	-	70	66	77
1980	-	-	-	-	-	-	63	39	1.1	4.4	6.9	7	2.9	10.3	34.7	-	79	55	73
1981	-	-	-	-	-	-	42	26	1.0	3.4	6.3	7	2.1	8.6	20.3	-	67	69	68
1982	-	-	-	-	17	-	39	22	3.7	4.4	5.3	7	2.9	4.2	6.2	-	63	55	48
1983	-	-	-	-	-	-	43	27	1.5	3.8	6.1	7	3.9	8.0	17.8	-	68	63	66
1984	-	7.19	-	52	-	-	64	35	2.1	3.8	5.6	6	3.7	8.3	13.2	-	76	63	67
1985	-	7.15	-	43	-	-	42	26	2.0	4.5	7.5	6	2.6	8.8	12.3	-	68	54	-
1986	-	7.56	-	-	-	-	73	33	2.5	4.2	5.6	6	4.0	7.7	11.5	-	75	58	65
1987	-	7.10	15.3	-	-	-	42	24	2.0	3.5	4.6	6	2.9	5.4	9.5	-	65	68	55
1988	-	7.40	-	-	-	-	31	23	2.1	3.9	6.5	6	2.6	9.2	16.0	-	-	62	70
1989	-	-	-	-	-	-	-	-	2.5	4.3	5.5	5	-	-	-	-	-	56	-

LAKE: COBBOSSEECONTEE L (VLMP CWD)
TOWN: WINTHROP
COUNTY: KENNEBEC

MIDAS: 5236
*TRUE BASIN: 1
*SAMPLE STATION: 2

SUMMARY OF CHEMICAL AND TROPHIC STATE PARAMETERS:

	MEAN COLOR	MEAN pH	MEAN ALK	MEAN COND.	TOTAL PHOS. MEANS (ppb)				SECCHI DISK (m.)				CHLOROPHYLL A(ppb)			TROPHIC STATE INDICES			
	(SPU)		(mg/l)	(uS	EPI	SURF	BOT.	PRO.								EPI PHOS			
YEAR				/cm)	CORE	GRAB	GRAB	GRAB	MIN.	MEAN	MAX.	N	MIN.	MEAN	MAX.	C	G	SEC	CHL
1990	-	7.09	18.0	55	24	-	53	28	1.6	3.6	5.9	6	-	-	-	-	70	66	-
1991	-	7.17	17.8	-	-	-	53	30	2.0	3.6	5.5	5	-	-	-	-	72	66	-
1992	-	7.10	17.6	-	-	-	-	-	1.5	2.6	3.8	6	-	-	-	-	-	85	-
1993	-	7.05	18.7	-	-	-	66	38	1.8	2.7	4.5	6	-	-	-	-	79	83	-
1994	18	6.93	17.3	-	-	-	61	37	1.9	3.3	5.6	6	6.7	10.9	19.7	-	78	71	74
1995	-	6.90	16.0	-	-	-	20	15	2.4	4.4	6.8	6	-	-	-	-	53	55	-
1996	-	-	-	-	-	-	27	20	1.8	3.6	5.2	6	4.2	7.2	10.0	-	60	66	63
1997	-	6.90	18.5	-	-	-	19	16	2.5	3.9	6.3	6	5.0	8.3	13.2	-	54	62	67
1998	-	-	-	-	-	-	23	20	2.4	4.3	5.8	6	3.9	8.9	14.0	-	61	56	69
1999	-	-	-	-	-	-	21	18	2.4	3.8	6.7	6	4.4	10.8	18.9	-	58	63	74
2000	-	6.96	15.5	-	-	14	21	18	2.7	4.0	6.4	6	4.0	7.3	14.0	-	58	60	63
2001	-	7.02	14.8	-	15	-	20	15	2.6	4.4	6.9	6	3.2	9.1	13.8	-	53	55	70
2002	-	6.98	14.4	-	-	-	28	20	2.7	4.9	7.4	6	4.5	7.7	15.9	-	61	49	65
2003	16	7.09	18.4	-	-	-	38	28	2.8	4.3	5.6	6	5.5	7.7	10.3	-	70	56	65
2004	9	7.01	16.0	-	-	-	55	34	2.6	4.9	6.8	5	2.9	6.9	11.4	-	76	49	62
2005	-	6.90	12.3	-	-	-	39	28	2.3	3.6	5.6	6	4.5	8.2	13.9	-	69	66	67
2006	19	6.98	19.2	82	-	-	40	28	2.5	4.3	6.9	6	3.7	7.3	12.0	-	69	56	63
2007	-	6.98	19.6	-	16	-	58	35	2.4	4.1	5.7	6	3.6	6.8	12.0	-	76	59	61
2008	-	7.06	20.4	-	-	-	44	27	2.5	3.9	6.2	6	3.9	10.0	17.0	-	68	62	72
2009	-	-	21.0	-	-	-	32	21	1.9	3.5	4.7	6	6.9	9.5	14.0	-	62	68	71
2010	-	-	20.4	-	15	-	64	33	2.1	4.5	7.5	6	3.9	9.0	20.0	-	74	54	69
SUMMARY:	15	7.05	17.4	58	17	17	41	26	1.0	3.9	8.2	36	1.7	8.3	37.9	53	67	62	66

LATE SUMMER TEMPERATURE / DISSOLVED OXYGEN PROFILES:

	SAMPLE DATE															
DEPTH	08/29/07		09/26/07		08/15/08		09/17/08		08/17/09		09/21/09		08/05/10		09/16/10	
m	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm
0.0	23.6	8.8	20.8	9.6	23.9	9.3	20.8	9.1	28.9	9.3	20.0	8.3	26.0	9.1	20.0	8.4
1.0	23.6	8.8	20.6	9.7	23.4	9.5	20.7	9.1	27.9	9.6	19.0	8.5	26.0	9.2	20.0	8.4
2.0	23.5	8.8	20.4	9.6	23.1	9.5	20.4	9.1	27.4	9.5	18.7	8.3	25.9	9.3	19.9	8.3
3.0	23.5	8.8	19.7	9.5	23.0	9.5	20.3	8.9	24.7	11.1	18.6	8.1	25.8	9.4	19.8	8.3
4.0	23.3	8.8	19.1	9.1	22.2	9.4	20.3	8.7	23.8	9.3	18.6	8.0	25.6	9.3	19.8	8.3
5.0	22.7	8.8	19.0	8.6	21.9	8.4	20.2	8.7	22.5	6.6	18.6	7.9	25.2	9.0	19.8	8.3
6.0	21.8	7.3	18.9	8.5	21.6	7.5	20.2	8.6	20.8	4.5	18.6	7.9	24.6	8.8	19.7	8.3
7.0	21.0	6.2	18.8	8.1	20.5	4.7	20.2	8.6	19.3	3.4	18.6	7.8	22.8	6.5	19.7	8.1
8.0	17.6	1.4	18.3	6.9	17.0	1.2	20.2	8.6	17.9	2.2	18.6	7.6	18.6	1.3	19.7	8.1
9.0	15.2	1.0	17.4	4.3	15.0	1.1	20.1	8.2	17.0	1.5	18.4	7.3	16.2	0.2	19.6	8.2
10.0	13.9	0.9	15.3	0.3	13.7	1.2	15.8	0.2	16.4	1.1	18.0	5.7	14.9	0.2	19.6	8.2
11.0	13.0	0.9	13.7	0.3	12.9	0.7	14.3	0.2	15.7	0.5	16.2	0.2	14.1	0.2	18.1	2.1
12.0	12.4	0.8	13.0	0.2	12.5	0.6	13.5	0.1	15.0	0.4	15.5	0.2	13.8	0.2	15.2	0.2
13.0	12.2	0.8	12.6	0.2	12.0	0.7	13.1	0.1	14.6	0.2	15.3	0.2	13.6	0.2	14.1	0.2
14.0	11.9	0.6	12.1	0.2	11.6	0.4	12.5	0.1	13.9	0.2	14.4	0.2	13.1	0.2	13.6	0.2
15.0	11.3	0.3	11.2	0.2	10.8	0.3	11.9	0.1	13.3	0.2	13.8	0.2	12.4	0.2	12.5	0.2
16.0	-	-	10.0	0.2	10.1	0.3	10.3	0.1	11.1	0.2	11.7	0.2	11.0	0.2	11.5	0.2
17.0	9.5	0.3	9.1	0.2	8.7	0.3	9.3	0.1	10.1	0.2	10.5	0.2	10.0	0.2	10.4	0.2
18.0	-	-	8.9	0.2	8.2	0.3	8.7	0.1	9.7	0.2	10.1	0.2	9.6	0.2	10.0	0.2

LAKE: COBBOSSEECONTEE L (VLMP CWD)
TOWN: WINTHROP
COUNTY: KENNEBEC

MIDAS: 5236
*TRUE BASIN: 1
*SAMPLE STATION: 2

LATE SUMMER TEMPERATURE / DISSOLVED OXYGEN PROFILES:

DEPTH	SAMPLE DATE															
	08/29/07		09/26/07		08/15/08		09/17/08		08/17/09		09/21/09		08/05/10		09/16/10	
m	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm
19.0	8.5	0.2	8.6	0.2	8.1	0.3	8.6	0.1	-	-	9.8	0.2	9.5	0.2	9.8	0.2
20.0	-	-	-	-	-	-	8.4	0.1	-	-	-	-	-	-	-	-

WATER QUALITY SUMMARY

Cobbosseecontee (Cobbossee) Lake, Winthrop
Midas: 5236, Basin: South (Basin 1)

The Cobbossee Watershed District (CWD), Maine Department of Environmental Protection (Maine DEP) and the Volunteer Lake Monitoring Program (VLMP) have collaborated in the collection of Cobbossee Lake data to evaluate water quality, track algal blooms, and determine historical water quality trends. This dataset does not include bacteria, mercury, or nutrients other than total phosphorus.

Water quality monitoring data for Cobbossee Lake (south basin) have been collected since 1976. During this period, 18 years of basic chemical information was collected in addition to 29 years of Secchi Disk Transparencies (SDT). In summary, the water quality of Cobbossee Lake is considered fair to poor based on historical measures of SDT, total phosphorus (TP), and chlorophyll-a (Chla). The potential for nuisance summertime algal blooms on Cobbossee Lake is moderate to high, however, water quality has greatly improved during the past eight years.

Water Quality Measures (south basin): Cobbossee Lake is a non-colored lake (average color 14 SPU) with an average SDT of 3.8 meters (12.5 feet). The range of upper water column TP for Cobbossee Lake is 12 - 20 parts per billion (ppb) with an average of 17 ppb. Chla ranges from 1.5 - 40.1 ppb with an average of 9.6 ppb. Recent dissolved oxygen (DO) profiles show high DO depletion in deep areas of the lake. The potential for phosphorus to leave the bottom sediments and become available to algae in the water column (internal loading) is moderate-high. Oxygen levels below 5 parts per million stress certain cold water fish. A persistent loss of oxygen may eliminate or reduce habitat for sensitive cold water species (e.g., lake trout/togue and landlocked Atlantic salmon).

Comments: Cobbossee Lake is actively managed and continually monitored directly through the Cobbossee Watershed District (CWD), and is on the state listing of Maine lakes non-attaining water quality standards. Associated studies include a Maine DEP non-point source pollution grant through the Kennebec County Soil and Water Conservation District for the restoration of Cobbossee Lake through reduction of total phosphorus in the Jock Stream watershed.

Nutrient Management: A Cobbossee Lake Total Maximum Daily (Annual Phosphorus) Load (TMDL) report was originally prepared by the Cobbossee Watershed District under contract with Maine DEP in the mid-1990's (1995 report). This report was revised to meet the US-EPA New England guidance template in 1999 and following lake stakeholder and public reviews, this document was approved by US-EPA (New England) on January 26, 2000. This final (addendum) report, along with the EPA-New England review summary and letter of approval, can be found on the Maine DEP webpage at: http://www.maine.gov/dep/blwq/docmonitoring/tmdl2.htm.

See ME-DEP Explanation of Lake Water Quality Monitoring Report for measured variable explanations. Additional lake information can be obtained by contacting CWD at 207-377-2234 or ME-DEP at 207-287-3901 or VLMP at 207-783-7733. Additional lake information can be found on the Internet at http://www.lakesofmaine.org/ and/or http://www.maine.gov/dep/blwq/lake.htm.

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